

Amendments to the Claims

1 1. (currently amended): A particulate compound for modifying a characteristic of a
2 fluid, comprising:
3 a core comprising the compound selected from the group consisting of:
4 polymers formed within a shell;
5 monomers which are polymerized within the shell, where the shell is
6 inert to monomer polymerization; and
7 the shell encapsulating the core,
8 where the encapsulated compound is ground to form the particulate compound
9 where the shell acts as an anti-agglomeration agent.

2. (original): The particulate compound of claim 1 where the compound is a drag reducing agent that modifies the flow resistance of the fluid.

3. (original): The particulate compound of claim 1 where the greatest outside dimension thereof is about 1000 microns or less.

4. (original): The particulate compound of claim 1 where the encapsulated compound is ground by a method selected from the group consisting of cryogenic grinding, pressure grinding, and combinations thereof.

5. (original): The particulate compound of claim 1 further comprising a coating of an anti-agglomeration agent applied during and/or after the encapsulated compound is ground.

6. (original): The particulate compound of claim 1 where the polymers formed within the shell are formed from alpha-olefins and the monomers are alpha-olefins.

7. (original): The particulate compound of claim 1 where the shell is selected from the group of materials consisting of polybutylene, polymethacrylates, waxes,

polyethylene glycol (PEG), polypropylene glycol (PPG), alkoxyl terminated PEG, polyethylene oxide (PEO), polypropylene oxide (PPO), stearic acid, polyethylene waxes, and mixtures thereof.

8-12. (canceled)

- 1 13. (original): An encapsulated drag reducing agent (EDRA) for reducing drag in a
2 liquid stream comprising:
3 a core reaction material comprising a monomer and a pre-polymerized cata-
4 lyst; and
5 a shell encapsulating the core reaction material, where the shell is inert to
6 the monomer polymerization;
7 where the monomer is polymerized within the shell.

14. (original): The EDRA of claim 13 where the monomer is an alpha-olefin.

15. (original): The EDRA of claim 13 where the core reaction material has an absence of solvent for the monomer.

16. (original): The EDRA of claim 13 where the monomer is an alpha-olefin, and the catalyst is a Ziegler-Natta catalyst.

- 1 17. (original): An encapsulated compound for modifying a characteristic of a fluid,
2 comprising:
3 a core comprising the compound selected from the group consisting of:
4 polymers formed within the shell;
5 monomers which are polymerized within the shell, where the shell is
6 inert to monomer polymerization; and
7 a shell encapsulating the core, where the shell contains polyethylene oxide
8 of a molecular weight equal to or greater than 100,000 molecular

9 weight where the polyethylene oxide forms a skin over the outer
10 surface thereof.

18. (original): The encapsulated compound of claim 17 where the compound is a drag reducing agent that modifies the flow resistance of the fluid.

19. (original): The encapsulated compound of claim 17 where the polymers formed within the shell are formed from alpha-olefins and the monomers are alpha-olefins.

20. (currently amended): The encapsulated compound of claim 17 where the polyethylene oxide forms a skin over the outer surface of the shell in combination with a material selected from the group consisting of polyethylene glycols, alkoxy polyethylene derivatives glycols, and mixtures thereof.

1 21. (original): An encapsulated compound for modifying a characteristic of a fluid,
2 comprising:
3 a core comprising the compound selected from the group consisting of:
4 polymers formed within the shell;
5 monomers which are polymerized within the shell, where the shell is
6 inert to monomer polymerization; and
7 a shell encapsulating the core, where materials forming the shell have at
8 least a portion of water therein removed by a method selected from the
9 group consisting of vacuum stripping, molecular sieves, and combina-
10 tions thereof.

22. (original): The encapsulated compound of claim 21 where the compound is a drag reducing agent that modifies the flow resistance of the fluid.

23. (original): The encapsulated compound of claim 21 where the polymers formed within the shell are formed from alpha-olefins and the monomers are alpha-olefins.

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24. (original): The encapsulated compound of claim 21 where the shell is selected from the group of materials consisting of polybutylene, polymethacrylates, polyethylene glycol (PEG), polypropylene glycol (PPG), alkoxyl terminated PEG, polyethylene oxide (PEO), polypropylene oxide (PPO), stearic acid, polyethylene waxes, paraffin waxes and mixtures thereof.

25-28. (canceled)

- 1 29. (original): An encapsulated compound for modifying a characteristic of a fluid,
2 comprising:
3 a core comprising the compound selected from the group consisting of:
4 polymers formed within a shell;
5 monomers that are polymerized within the shell, where the shell is
6 inert to monomer polymerization;
7 where the polymerization of the monomers to form the polymers is
8 accomplished by a main catalyst, which cannot catalyze the polymeriza-
9 tion of the monomers until a co-catalyst is added thereto;
10 a co-catalyst in the core; and
11 the shell encapsulating the core.

30. (original): The encapsulated compound of claim 29 where the main catalyst is selected from the group consisting of aluminum activated titanium trichloride, titanium tetrachloride, and mixtures thereof and the co-catalyst is selected from the group consisting of diethylaluminum chloride, diethylaluminum bromide, diethylaluminum iodide, dipropylaluminum chloride, dibutylaluminum chloride, ethylpropyl aluminum chloride, ethylene dichloride, diethylaluminum ethoxide, dimethylaluminum ethoxide, diethylaluminum propoxide, ethylmethylaluminum ethoxide, isobutyl aluminoxane and mixtures thereof.

31. (original): The encapsulated compound of claim 29 where the compound is a drag reducing agent that modifies the flow resistance of the fluid.

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32. (original): The encapsulated compound of claim 29 where the polymers formed within the shell are formed from alpha-olefins and the monomers are alpha-olefins.

- 1 33. (original): A method for making a particulate compound for modifying a
2 characteristic of a fluid, comprising:
3 encapsulating a core with a shell where the core comprises a compound
4 made by a process selected from the group consisting of:
5 forming polymers within the shell;
6 polymerizing monomers within the shell, where the shell is inert to
7 monomer polymerization; and
8 grinding the encapsulated compound to form the particulate compound.

34. (original): The method of claim 33 where in encapsulating the core the compound is a drag reducing agent that modifies the flow resistance of the fluid.

35. (original): The method of claim 33 where in grinding the encapsulated compound the greatest outside dimension of the particulate compound thereof is about 1000 microns or less.

36. (original): The method of claim 33 where the grinding is conducted by a process selected from the group consisting of cryogenic grinding, pressure grinding, and combinations thereof.

37. (original): The method of claim 33 further comprising coating the particulate compound with an anti-agglomeration agent during and/or after grinding the encapsulated compound.

38. (original): The method of claim 33 where forming polymers within the shell and polymerizing monomers comprises polymerizing alpha-olefins.

39. (original): The method compound of claim 33 where in encapsulating a core with a shell, the shell is selected from the group of materials consisting of polybutylene, polymethacrylates, waxes, polyethylene glycol (PEG), polypropylene glycol (PPG), alkoxyl terminated PEG, polyethylene oxide (PEO), polypropylene oxide (PPO), stearic acid, polyethylene waxes, and mixtures thereof.

40-44. (canceled)

- 1 45. (original): A method of making an encapsulated drag reducing agent (EDRA)
- 2 for reducing drag in a liquid stream comprising:
- 3 providing a core reaction material comprising a monomer and a pre-polym-
- 4 erized catalyst;
- 5 encapsulating the core reaction material in a shell, where the shell is inert to
- 6 the monomer polymerization; and
- 7 polymerizing the monomer within the shell.

46. (original): The method of claim 45 where in providing the core reaction material, the monomer is an alpha-olefin.

47. (original): The method of claim 45 where in providing the core reaction material, the core reaction material has an absence of solvent for the monomer.

48. (original): The method of claim 45 where in providing the core reaction material, the monomer is an alpha-olefin, and the catalyst is a Ziegler-Natta catalyst.

- 1 49. (original): A method for making an encapsulated compound for modifying a
- 2 characteristic of a fluid, comprising:
- 3 providing a core comprising the compound selected from the group consist-
- 4 ing of:
- 5 forming polymers within the shell;

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6 polymerizing monomers which are within the shell,
7 where the shell is inert to monomer polymerization; and
8 encapsulating the core with a shell, where the shell contains polyethylene
9 oxide of a molecular weight equal to or greater than 100,000 molecu-
10 lar weight where the polyethylene oxide forms a skin over the outer
11 surface thereof.

50. (currently amended): The method of claim 48 ~~49~~ where in providing a core, the compound is a drag reducing agent that modifies the flow resistance of the fluid.

51. (original): The method of claim 49 where in providing a core, forming the polymers within the shell and polymerizing the monomers comprise polymerizing alpha-olefins.

52. (currently amended): The method of claim 49 where in encapsulating the core, the skin forms over the outer surface of the shell in combination with a material selected from the group consisting of polyethylene glycols, alkoxypolyethylene ~~derivatives-glycols~~, and mixtures thereof.

1 53. (original): A method of making encapsulated compounds for modifying a
2 characteristic of a fluid, comprising:
3 providing a core comprising the compound made by a process selected from
4 the group consisting of:
5 forming polymers within the shell;
6 polymerizing monomers within the shell,
7 where the shell is inert to monomer polymerization; and
8 encapsulating the core with a shell, including removing at least a portion of
9 water from the shell by a method selected from the group consisting of
10 vacuum stripping, molecular sieves, and combinations thereof.

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54. (original): The method of claim 53 where in providing the core the compound is a drag reducing agent that modifies the flow resistance of the fluid.

55. (original): The method of claim 53 where in forming polymers within the shell comprise forming polymers from alpha-olefins and polymerizing monomers comprises alpha-olefins.

56. (original): The method of claim 53 where in encapsulating the core with a shell, the shell is selected from the group of materials consisting of polybutylene, polymethacrylates, polyethylene glycol (PEG), polypropylene glycol (PPG), alkoxyl terminated PEG, polyethylene oxide (PEO), polypropylene oxide (PPO), stearic acid, paraffin waxes, polyethylene waxes, and mixtures thereof.

57-60. (canceled)

1 61. (original): A method of making an encapsulated compound for modifying a
2 characteristic of a fluid, comprising:
3 providing a core comprising the compound made by a method selected from
4 the group consisting of:
5 forming polymers within a shell;
6 polymerizing monomers within the shell,
7 where the shell is inert to monomer polymerization and where the polym-
8 erization of the monomers to form the polymers is accomplished by a
9 main catalyst which cannot catalyze the polymerization of the monomers
10 until a co-catalyst is added thereto;
11 adding a co-catalyst to the monomers; and
12 encapsulating the core with the shell.

62. (original): The method of claim 61 where in providing the core the main catalyst is selected from the group consisting of aluminum activated titanium trichloride, titanium tetrachloride, and mixtures thereof and the co-catalyst is selected from the

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group consisting of diethylaluminum chloride, diethylaluminum bromide, diethylaluminum iodide, dipropylaluminum chloride, dibutylaluminum chloride, ethylpropyl aluminum chloride, ethylene dichloride, diethylaluminum ethoxide, dimethylaluminum ethoxide, diethylaluminum propoxide, ethylmethylaluminum ethoxide, isobutyl aluminoxane and mixtures thereof.

63. (original): The method of claim 61 where in providing the core the compound is a drag reducing agent that modifies the flow resistance of the fluid.

64. (original): The method of claim 61 where in providing the core, forming the polymers within the shell comprises forming polymers from alpha-olefins and polymerizing monomers comprises polymerizing alpha-olefins.

65-66. (canceled)

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